F72/F75 Series

Low Profile and HiCV Conformal Coated Chip

FEATURES

- Compliant to the RoHS2 directive 2011/65/EU
- SMD Conformal
- Small and low profile

LEAD-FREE

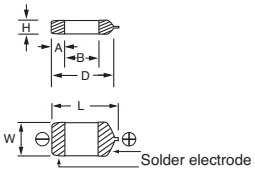
LEAD-FREE COMPATIBLE COMPONENT

RoHS COMPLIANT

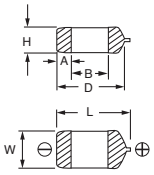
APPLICATIONS

- Smartphone
- Mobile phone
- Wireless module
- Hearing aid

F72



F75



CASE DIMENSIONS: millimeters (inches)

Code	EIA Code	EIA Metric	L	W	H	A	B	D*
F72 Case Dimensions								
M	2824	7260-20	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	2.00 Max. (0.079 Max)	1.30±0.40 (0.051±0.016)	3.80±0.60 (0.150±0.024)	6.20 (0.244)
R	2824	7260-15	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	1.20±0.30 (0.047±0.012)	1.30±0.40 (0.051±0.016)	3.80±0.60 (0.150±0.024)	6.20 (0.244)
F75 Case Dimensions								
C	2813	7132-28	7.10±0.30 (0.280±0.012)	3.20±0.30 (0.126±0.012)	2.50±0.30 (0.098±0.012)	1.30±0.30 (0.051±0.012)	3.60±0.60 (0.142±0.024)	6.00 (0.236)
D	2914	7343-31	7.30±0.30 (0.287±0.012)	4.30±0.30 (0.136±0.012)	2.80±0.30 (0.110±0.012)	1.30±0.40 (0.051±0.016)	3.90±0.60 (0.153±0.024)	6.40 (0.252)
R	2824	7260-38	7.20±0.30 (0.283±0.012)	6.00±0.30 (0.236±0.012)	3.50±0.30 (0.138±0.012)	1.30±0.40 (0.051±0.016)	3.80±0.60 (0.150±0.024)	6.20 (0.244)
U	2813	7132-20	7.10±0.30 (0.280±0.012)	3.20±0.30 (0.126±0.012)	2.00 Max. (0.079 Max)	1.30±0.30 (0.051±0.012)	3.60±0.60 (0.142±0.024)	6.00 (0.236)

*D dimension only for reference

HOW TO ORDER

F72	1A	107	M	R	□	AQ2
Type	**Rated Voltage**	**Capacitance Code** pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	**Tolerance** K = ±10% M = ±20%	**Case Size** See table above	**Packaging** See Tape & Reel Packaging Section	**Single Facing Electrode**

F75	1C	157	M	D	□	AQ2
Type	**Rated Voltage**	**Capacitance Code** pF code: 1st two digits represent significant figures, 3rd digit represents multiplier (number of zeros to follow)	**Tolerance** K = ±10% M = ±20%	**Case Size** See table above	**Packaging** See Tape & Reel Packaging Section	**Single Facing Electrode**

TECHNICAL SPECIFICATIONS

Category Temperature Range:	-55 to +125°C
Rated Temperature:	+85°C
Capacitance Tolerance:	±20%, ±10% at 120Hz
Dissipation Factor:	Refer to next page
ESR 100kHz:	Refer to next page
Leakage Current:	After 1 minute's application of rated voltage, leakage current at 20°C is not more than 0.01CV or 0.5µA, whichever is greater.
	After 1 minute's application of rated voltage, leakage current at 85°C is not more than 0.1CV or 5µA, whichever is greater.
	After 1 minute's application of derated voltage, leakage current at 125°C is not more than 0.125CV or 6.3µA, whichever is greater.
Capacitance Change By Temperature	+15% Max. at +125°C
	+10% Max. at +85°C
	-10% Max. at -55°C

F72/F75 Series

Low Profile and HiCV Conformal Coated Chip

CAPACITANCE AND RATED VOLTAGE RANGE (LETTER DENOTES CASE SIZE)

F72

Capacitance		Rated Voltage			
µF	Code	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)
33	336				R
47	476			R	R
68	686		R	R	R
100	107	R	R	R	
150	157	R	R	R	
220	227	R	R	R	M
330	337	R	R		M
470	477			M	
680	687			M	
1000	108		M	M	
1500	158		M		

F75

Capacitance		Rated Voltage			
µF	Code	4V (0G)	6.3V (0J)	10V (1A)	16V (1C)
68	686				C
100	107				C
150	157			C	D
220	227		C	C/D	R
330	337	C	C/D	D	
470	477	C/D	D/U	R/U	
680	687	D	D/R		
1000	108	D/R	R		
1500	158	R			
2200	228	R			

Released ratings

Please contact to your local AVX sales office when these series are being designed in your application.

RATINGS & PART NUMBER REFERENCE

F72

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA)	DF @ 120Hz (%)	ESR @ 100kHz (Ω)	100kHz RMS Current (mA) 20°C	*1 ΔC/C (%)	MSL
4 Volt									
F720G107MRC	R	100	4	4.0	8	0.70	463	*	3
F720G157MRC	R	150	4	6.0	10	0.70	463	*	3
F720G227MRC	R	220	4	8.8	12	0.70	463	*	3
F720G337MRC	R	330	4	13.2	12	0.70	463	*	3
6.3 Volt									
F720J686MRC	R	68	6.3	4.3	6	0.75	447	*	3
F720J107MRC	R	100	6.3	6.3	8	0.70	463	*	3
F720J157MRC	R	150	6.3	9.5	10	0.70	463	*	3
F720J227MRC	R	220	6.3	13.9	12	0.70	463	*	3
F720J337MRC	R	330	6.3	20.8	12	0.70	463	*	3
F720J108MMCAQ2	M	1000	6.3	63.0	30	0.14	1118	±15	3
F720J158MMCAQ2	M	1500	6.3	95.0	45	0.14	1118	±20	3
10 Volt									
F721A476MRC	R	47	10	4.7	6	0.80	433	*	3
F721A686MRC	R	68	10	6.8	6	0.75	447	*	3
F721A107MRC	R	100	10	10.0	8	0.70	463	*	3
F721A157MRC	R	150	10	15.0	10	0.70	463	*	3
F721A227MRC	R	220	10	22.0	12	0.70	463	*	3
F721A477MMCAQ2	M	470	10	47.0	30	0.14	1118	±15	3
F721A687MMCAQ2	M	680	10	68.0	35	0.14	1118	±20	3
F721A108MMCAQ2	M	1000	10	200	45	0.14	1118	±20	3
16 Volt									
F721C336MRC	R	33	16	5.3	6	0.90	408	*	3
F721C476MRC	R	47	16	7.5	6	0.80	433	*	3
F721C686MRC	R	68	16	10.9	6	0.75	447	*	3
F721C227MMCAQ2	M	220	16	35.2	12	0.20	935	±20	3
F721C337MMCAQ2	M	330	16	52.8	45	0.20	935	±20	3

* In case of capacitance tolerance ± 10% type, "K" will be put at 9th digit of type numbering system

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

1: ΔC/C Marked ""

Item	F72 All Case (%)
Damp Heat	±10
Temperature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10

F75

AVX Part No.	Case Size	Capacitance (µF)	Rated Voltage (V)	DCL (µA)	DF @ 120Hz (%)	ESR @ 100kHz (Ω)	100kHz RMS Current (mA) 20°C	*1 ΔC/C (%)	MSL
4 Volt									
F750G337MCC	C	330	4	13.2	10	0.15	856	*	3
F750G477MCC	C	470	4	18.8	14	0.12	957	*	3
F750G477MDC	D	470	4	18.8	14	0.12	1118	*	3
F750G687MDC	D	680	4	27.2	18	0.12	1118	*	3
F750G108MDC	D	1000	4	40.0	24	0.12	1118	*	3
F750G108MRC	R	1000	4	40.0	24	0.12	1443	*	3
F750G158MRC	R	1500	4	60.0	30	0.12	1443	*	3
F750G228MRC	R	2200	4	88.0	45	0.07	1890	*	3
6.3 Volt									
F750J227MCC	C	220	6.3	13.9	10	0.20	742	*	3
F750J337MCC	C	330	6.3	20.8	10	0.15	856	*	3
F750J337MDC	D	330	6.3	20.8	10	0.15	1000	*	3
F750J477MDC	D	470	6.3	29.6	14	0.12	1118	*	3
F750J477MUC	U	470	6.3	29.6	15	0.10	1049	*	3
F750J687MDC	D	680	6.3	42.8	18	0.12	1118	*	3
F750J687MRC	R	680	6.3	42.8	18	0.12	1443	*	3
F750J108MRC	R	1000	6.3	63.0	24	0.12	1443	*	3
10 Volt									
F751A157MCC	C	150	10	15.0	10	0.22	707	*	3
F751A227MCC	C	220	10	22.0	10	0.20	742	*	3
F751A227MDC	D	220	10	22.0	10	0.20	866	*	3
F751A337MDC	D	330	10	33.0	10	0.15	1000	*	3
F751A477MRC	R	470	10	47.0	14	0.12	1443	*	3
F751A477MUCAQ2	U	470	10	94.0	30	0.15	856	±20	3
16 Volt									
F751C686MCC	C	68	16	10.9	10	0.22	707	*	3
F751C107MCC	C	100	16	16.0	10	0.22	707	*	3
F751C157MDC	D	150	16	24.0	10	0.22	826	*	3
F751C227MRC	R	220	16	35.2	10	0.20	1118	*	3

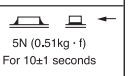
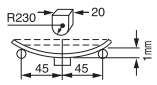
* In case of capacitance tolerance ± 10% type, "K" will be put at 9th digit of type numbering system

Moisture Sensitivity Level (MSL) is defined according to J-STD-020.

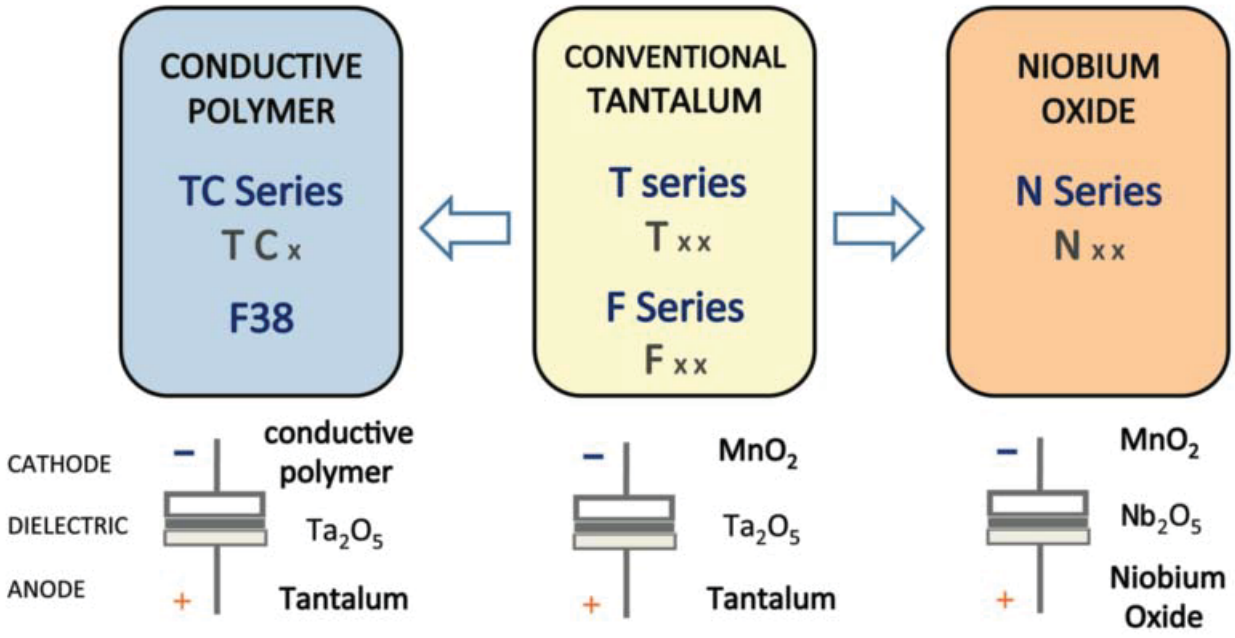
1: ΔC/C Marked ""

Item	F75 All Case (%)
Damp Heat	±10
Temperature cycles	±5
Resistance soldering heat	±5
Surge	±5
Endurance	±10

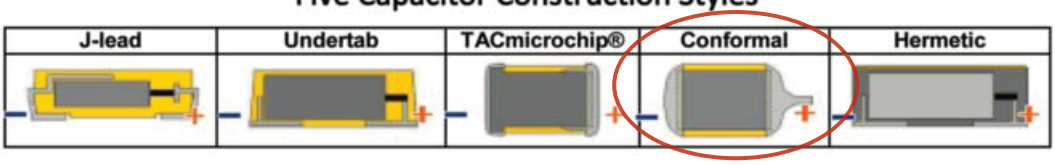
QUALIFICATION TABLE

TEST	F72/75 series (Temperature range -55ºC to +125ºC) Condition
Damp Heat (Steady State)	At 40°C, 90 to 95% R.H., 500 hours (No voltage applied) Capacitance Change ..... Refer to page 165 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Temperature Cycles	At -55°C / +125°C, 30 minutes each, 5 cycles Capacitance Change ..... Refer to page 165 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Resistance to Soldering Heat	10 seconds reflow at 260°C, 10 seconds immersion at 260°C. Capacitance Change ..... Refer to page 165 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Surge	After application of surge voltage in series with a 33Ω resistor at the rate of 30 seconds ON, 30 seconds OFF, for 1000 successive test cycles at 85ºC, capacitors shall meet the characteristic requirements in the table above. Capacitance Change ..... Refer to page 165 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Endurance	After 2000 hours' application of rated voltage at 85°C, capacitors shall meet the characteristic requirements in the table above. Capacitance Change ..... Refer to page 165 (*1) Dissipation Factor ..... Initial specified value or less Leakage Current ..... Initial specified value or less
Shear Test	After applying the pressure load of 5N for 10±1 seconds horizontally to the center of capacitor side body which has no electrode and has been soldered beforehand on a substrate, there shall be found neither exfoliation nor its sign at the terminal electrode. 
Terminal Strength	Keeping a capacitor surface-mounted on a substrate upside down and supporting the substrate at both of the opposite bottom points 45mm apart from the center of capacitor, the pressure strength is applied with a specified jig at the center of substrate so that the substrate may bend by 1mm as illustrated. Then, there shall be found no remarkable abnormality on the capacitor terminals. 

AVX SOLID ELECTROLYTIC CAPACITOR ROADMAP



Five Capacitor Construction Styles



SERIES LINE UP: CONFORMAL Ta MnO_2